

Astrobiological Realities versus Extraterrestrial Lore

Astrobiological Realities versus Extraterrestrial Lore

Spring Jayson



Copyright © 2026 by Spring Jayson

All rights reserved. No part of this book may be reproduced in any manner whatsoever without written permission except in the case of brief quotations embodied in critical articles and reviews.

First Printing, 2026

Introduction

The intersection of observational astrophysics, planetary astrobiology, and cultural sociology presents a profound dichotomy in the modern scientific era. As of the mid-2020s, humanity has crossed a monumental threshold, with the official number of confirmed exoplanets tracked by the National Aeronautics and Space Administration (NASA) and international observatories surpassing 6,000 individual worlds. Utilizing advanced observational infrastructure—including the Transiting Exoplanet Survey Satellite (TESS), the Kepler Space Telescope, and the James Webb Space Telescope (JWST)—astronomers have meticulously cataloged a vast and diverse array of planetary systems. These empirical discoveries range from tightly orbiting gas giants and sub-Neptunes to terrestrial super-Earths located within the delicate circumstellar habitable zones of their host stars. Contemporaneously, the Habitable Worlds Catalog (HWC), maintained by the Planetary Habitability Laboratory (PHL) at the University of Puerto Rico at Arecibo, actively tracks dozens of potentially habitable worlds, providing a rigorous mathematical and empirical framework for the ongoing search for extraterrestrial life and atmospheric biosignatures.

In stark contrast to the methodical, data-driven progression of exoplanetary science stands the cultural and sociological phenomenon of ufology and extraterrestrial contactee lore. Since the post-World War II era, heavily influenced by the dawn of the atomic age and the rapid development of rocketry, a complex mythology has developed surrounding alleged extraterrestrial visitations to Earth. Within this en-

trenched cultural paradigm, numerous accounts, contactee testimonies, and purported abduction narratives claim direct interaction with advanced extraterrestrial civilizations originating from highly specific star systems. Most notably, these origin points include Zeta Reticuli, Sirius, the Pleiades star cluster, the Orion constellation, and the Alpha Centauri system. Furthermore, more esoteric fringe narratives have introduced entirely unverified or impossible planetary bodies, such as Ummo, Iarga, and Clarion, weaving them into the broader tapestry of ufological belief.

This comprehensive research report provides an exhaustive cross-referential analysis comparing the specific star systems prominently featured in extraterrestrial contact lore against the hard empirical data provided by modern astrometry, stellar astrophysics, and exoplanetology. By evaluating the stellar properties, planetary architectures, evolutionary timelines, and biological viability of these claimed origin points, a distinct and unmistakable pattern emerges. The astrobiological data indicates a profound disconnect between the star systems favored by cultural mythology and the actual stellar systems identified by the scientific community as possessing true habitability potential. This divergence highlights an inherent anthropocentric and visibility-based bias in extraterrestrial lore, wherein human observers historically projected their extraterrestrial fantasies onto the brightest, most culturally significant stars in the night sky, fundamentally ignoring the astrophysical realities that render those very same stars entirely incapable of sustaining complex biological evolution.

The Empirical Framework of Astrobiological Viability and Exoplanetary Discovery

Before examining specific star systems implicated in extraterrestrial lore, it is strictly necessary to establish the scientific parameters that govern planetary habitability and the methods by which humanity currently discovers distant worlds. The NASA Exoplanet Archive and the Planetary Habitability Laboratory maintain rigorous, peer-reviewed standards for classifying potentially habitable worlds. As of 2024, the HWC listed up to 70 potentially habitable worlds out of the thousands of confirmed exoplanets, applying strict metric constraints to separate highly viable candidates from statistical anomalies.

The Habitable Worlds Catalog divides these candidates into two primary categories. The first is the Conservative Sample, consisting of approximately 29 planets. These worlds possess a demonstrably high likelihood of being rocky terrestrial bodies capable of supporting surface liquid water. They are typically defined by a planetary radius between 0.5 and 1.6 Earth radii, or a minimum mass between 0.1 and 3 Earth masses. The second category is the Optimistic Sample, consisting of approximately 41 planets. These worlds have a significantly lower likelihood of habitable conditions and may include water worlds, larger super-Earths, or mini-Neptunes, defined by a radius between 1.6 and 2.5 Earth radii or a minimum mass ranging between 3 and 10 Earth masses.

To be considered viable for biological life as it is currently understood, a planet must reside within its host star's circumstellar habitable zone. This is the precise orbital region where an Earth-like atmosphere can maintain liquid water on

the planetary surface. The boundaries of this zone are heavily dependent on the host star's stellar classification, bolometric luminosity, and evolutionary age. The Kopparapu habitable zone limits, widely used in modern astrophysics, assume that habitable conditions are maintained by the carbonate-silicate cycle, with carbon dioxide acting as the primary non-condensable greenhouse gas.

The duration of stellar evolution is an equally critical metric. Life on Earth required billions of years to evolve from simple amino acids into complex, multicellular, and eventually intelligent forms. This biological necessity dictates that host stars must possess long, stable lifespans to facilitate similar evolutionary timelines. Consequently, massive O, B, and A-type stars, which exhaust their nuclear fuel in mere millions of years and conclude their lives in violent supernova explosions, are fundamentally unsuited for the development of advanced extraterrestrial intelligence. Conversely, G-type stars (such as the Sun), K-type orange dwarfs, and M-type red dwarfs offer main-sequence lifespans ranging from billions to trillions of years. However, M-dwarfs, which are by far the most abundant stars in the Milky Way galaxy, present unique challenges. Due to their convective dynamics, many young M-dwarfs emit violent stellar flares, extreme ultraviolet radiation, and X-rays, potentially stripping the atmospheres of closely orbiting terrestrial planets and rendering them sterile.

Modern exoplanetary discovery relies on a synthesis of highly precise detection methods. The transit method, utilized heavily by Kepler and TESS, detects the minuscule dip in a star's brightness when a planet crosses in front of it. The radial velocity method, employed by advanced spectrographs

like HARPS (High Accuracy Radial Velocity Planet Searcher) and ESPRESSO at the La Silla Observatory, measures the subtle gravitational "wobble" induced on a host star by an orbiting mass. Other methods include astrometry, microlensing (capable of detecting distant, even extragalactic planets), and direct imaging, the latter of which is highly constrained by the blinding glare of host stars. It is through this rigorous, multi-instrumental lens that the claims of ufological lore must be evaluated.

Astrobiological Evaluation of Ufological Star Systems

The intersection of human mythology and the night sky dates back to antiquity, but the specific attribution of extraterrestrial intelligence to precise stellar coordinates accelerated significantly during the 20th century. The following subsections systematically evaluate the most prominent star systems in extraterrestrial lore, contrasting the cultural claims made by contactees, abductees, and pseudoscientific authors with contemporary astrophysical data.

Zeta Reticuli: The Archetypal Abduction Origin and Project Serpo

The Zeta Reticuli binary star system is arguably the most infamous and widely recognized celestial coordinate in the entirety of ufology. Located approximately 39.3 light-years from Earth in the southern constellation of Reticulum, the system consists of two G-type main-sequence stars, classified as G3-5V and G2V, respectively. These characteristics make

both stars solar analogs, sharing significant similarities in mass, radius, and temperature with the Earth's Sun.

Zeta Reticuli's prominence in extraterrestrial lore originated with the widely publicized 1961 alien abduction of Betty and Barney Hill in New Hampshire. During a subsequent regressive hypnosis session, Betty Hill described and drew a complex star map she was allegedly shown aboard an extraterrestrial spacecraft, which supposedly detailed the trade routes and exploration paths of her captors. Years later, an amateur astronomer named Marjorie Fish constructed a physical three-dimensional model of the local stellar neighborhood and concluded that the Hill map depicted the Zeta Reticuli system as the definitive origin point of the extraterrestrial beings. These beings subsequently became entrenched in pop culture as the "Greys" or Zeta Reticulans. The system was later immortalized in further ufological conspiracy theories, most notably "Project Serpo," an alleged top-secret exchange program initiated in 1965 between the United States government and beings from the planet Serpo, purportedly located within the Zeta Reticuli system. The extensive lore portrays the inhabitants of Serpo, referred to as Ebens, as a highly advanced civilization orbiting these twin stars.

Despite decades of targeted observation by the astronomical community, empirical data does not support the presence of a viable planetary system around either Zeta 1 Reticuli or Zeta 2 Reticuli capable of supporting an advanced civilization. Both stars share a common proper motion and are gravitationally bound, moving through space together at a very wide separation. In 2010, observational data from the Herschel Space Observatory revealed the presence of an infrared

excess indicating a debris disk around Zeta 2 Reticuli. This disk exhibited an asymmetrical, two-lobed structure, which initially led some astronomers to hypothesize that the gravitational perturbation of an unseen, eccentric exoplanet was shaping the dust. However, a comprehensive 2018 study demonstrated that there was "no common proper motion" between the lobed structure of the debris disk and the star Zeta 2 Reticuli, strongly indicating that the asymmetry was an artifact of background alignment rather than a planet in orbit. To date, no exoplanet of any mass has been confirmed in the entire Zeta Reticuli system. Furthermore, modern astrometric analyses of the original Betty Hill star map, utilizing updated parallax measurements from the Hipparcos and Gaia satellites, have largely invalidated Marjorie Fish's interpretation. Modern science and mathematics demonstrate that the specific stellar distances and alignments required for the map to match Zeta Reticuli do not hold up under contemporary precision astronomy, proving the correlation to be coincidental and driven by confirmation bias.

The Sirius System: White Dwarfs, Dogon Enigmas, and Evolutionary Dead Ends

Sirius, visibly the brightest star in the night sky with an apparent magnitude of -1.46, is located a mere 8.6 light-years away in the constellation Canis Major. It is a binary stellar system comprising Sirius A, a massive, highly luminous A-type main-sequence star of spectral type A0mA1 Va, and Sirius B, a faint DA2 white dwarf companion. The two stars orbit their common barycenter every 50 years at a highly elliptical distance varying between 8.2 and 31.5 astronomical units.

Sirius holds a central and highly revered place in both ancient astronaut theories and modern extraterrestrial contact lore. The "Sirius Mystery," popularized by author Robert K. G. Temple in his 1976 book, posited the pseudoscientific hypothesis that the Dogon people of Mali possessed advanced, unassisted knowledge of Sirius B—a white dwarf star utterly invisible to the naked eye—long before modern astronomy discovered it using powerful telescopes. Temple hypothesized that an advanced, amphibious extraterrestrial race from the Sirius system visited Earth in antiquity, imparting this sophisticated astronomical knowledge to human civilizations and laying the mythological groundwork for the Egyptians and Sumerians. In broader, contemporary extraterrestrial lore, beings from Sirius, often referred to simply as Sirians, are frequently cited by contactees. A notable instance of this lore manifesting in the public sphere occurred during the 1977 Southern Television broadcast interruption in the United Kingdom, where a hijacked audio signal featuring a voice claiming to be "Ashtar," the alleged leader of the Sirian society, delivered a telepathic message of goodwill and anti-nuclear warning to humanity.

The Sirius system, however, represents an astrophysical environment profoundly hostile to the genesis, development, and sustenance of biological life. Firstly, the entire binary system is exceptionally young. Sirius A has an estimated age of only 200 to 300 million years. By comparison, on Earth, a comparable timeframe following planetary formation only allowed for the cooling of the crust and the emergence of the most primitive single-celled organisms. It is highly improbable, bordering on impossible, that an advanced, spacefaring

civilization capable of interstellar travel could evolve on such an accelerated biological timescale.

Secondly, the presence of Sirius B as a white dwarf poses an insurmountable biological and evolutionary hurdle for any theoretical planets in the system. A white dwarf is the remnant core of a dead star. Prior to shedding its outer layers and collapsing into a white dwarf, Sirius B was a massive main-sequence star that evolved rapidly into a swollen red giant. During its red giant expansion phase, Sirius B would have physically engulfed, or at the very least catastrophically irradiated, any terrestrial planets within its inner orbital system. Furthermore, the subsequent mass transfer to Sirius A and the intense ultraviolet radiation emitted during the planetary nebula phase would have effectively sterilized the entire orbital vicinity of both stars. Despite continuous and intense scientific scrutiny, including targeted observations by the Transiting Exoplanet Survey Satellite (TESS) and the Hubble Space Telescope, no exoplanets have ever been confirmed orbiting either star in the Sirius system. While historical astrometric data dating back to 1894 suggested minor orbital irregularities pointing to a potential third companion with a mass of roughly 0.06 solar masses, this hypothetical body has never been empirically confirmed, and modern observations have ruled out the existence of any brown dwarfs or exoplanets larger than 15 Jupiter masses.

The Pleiades and Orion Constellations: The Paradox of Stellar Youth and Supergiants

The Pleiades open star cluster (Messier 45) and the prominent Orion constellation form the visual backbone of the

northern winter sky and are equally foundational to the pantheon of extraterrestrial contactee lore.

The Pleiades, located approximately 444 light-years away in the constellation Taurus, is the alleged home of the "Pleadians," also frequently referred to in contactee literature as the Plejaren or Nordic aliens. In ufological lore, Pleadians are consistently described as a highly evolved, humanoid, and spiritually advanced extraterrestrial species bearing a striking resemblance to tall, blonde, blue-eyed humans. The contemporary New Age concept of "Starseeds"—individuals who believe their souls originated from another planetary system and incarnated on Earth to elevate human consciousness—heavily references the Pleiades as a primary spiritual origin point.

Similarly, the Orion constellation is frequently cited in ufology as the origin point of various advanced extraterrestrial races, including "Rigellians," "Bellatricians," and reptilian or "Grey" entities originating specifically from the stars comprising Orion's Belt: Alnilam, Alnitak, and Mintaka. These Orion-based species are routinely characterized in exopolitics and contactee literature as militaristic, warlike, and expansionist beings.

From a strict astrobiological and stellar physics standpoint, the claims surrounding both the Pleiades cluster and the primary stars of the Orion constellation are physically impossible. The impossibility stems directly from stellar nucleosynthesis, extreme surface temperatures, and drastically truncated stellar lifespans.

The Pleiades is a highly youthful open cluster, with an estimated age ranging from a mere 75 to 150 million years. Its most prominent and culturally recognized stars, such as

Alcyone, Maia, Taygeta, Electra, Merope, Atlas, and Pleione, are incredibly massive B-type blue giant stars. Alcyone, the brightest star in the cluster, possesses a mass of roughly 5.9 to 6.1 solar masses, an effective surface temperature exceeding 12,200 Kelvin, and a bolometric luminosity over 1,750 times that of the Earth's Sun. B-type stars emit lethal, sterilizing levels of ultraviolet radiation that would rapidly strip the nascent atmospheres of any proximal terrestrial planets. More crucially, their massive size dictates an exponentially rapid rate of nuclear fuel consumption. These stars will exhaust their hydrogen and expire in just a few hundred million years—vastly insufficient time for protoplanetary disks to coalesce into stable rocky worlds, cool down, form stable oceans, and facilitate the genesis of single-celled life, let alone permit the billions of years required for the evolution of highly advanced, spacefaring humanoid civilizations. While recent analyses using TESS and Gaia satellite data have uncovered a Greater Pleiades Complex containing dissolving sibling stars on similar galactic trajectories, and it is theoretically possible that gas giants or brown dwarfs may eventually be found in the wider region, terrestrial habitability around the primary stars is completely precluded by the cluster's extreme youth and lethal radiation output.

The prominent stars of the Orion constellation present an even more extreme barrier to astrobiological viability. The constellation's brightest and most famous stars are predominantly massive supergiant stars nearing the violent ends of their incredibly short lifespans. Betelgeuse (Alpha Orionis) is a massive M-type red supergiant heavily characterized by its instability and impending supernova explosion. Rigel (Beta

Orionis), Bellatrix (Gamma Orionis), Alnilam, and Saiph are extremely massive B-type blue supergiants or hot giants. Saiph, for instance, possesses a searing surface temperature of over 25,500 Kelvin and is estimated to be a baby in cosmic terms, at less than six million years old. Furthermore, the triple star system Alnitak and the multiple star system Mintaka in Orion's Belt are deeply embedded in dense molecular clouds and violent reflection nebulas, emitting catastrophic levels of radiation that actively prevent stable planetary formation. The ufological notion that an advanced, ancient civilization could originate from Rigel or Bellatrix fundamentally contradicts the core principles of stellar evolution. While the wider Orion constellation does contain older, quieter stars that harbor exoplanets—such as the G-type star HD 34445, which hosts a confirmed Jupiter-mass planet in an eccentric orbit—the massive supergiants specifically named in extraterrestrial lore are completely barren of life.

Alpha Centauri: The Nearest Neighbors and the Apunian Mythos

The Alpha Centauri system holds a unique distinction as the closest star system to the Earth's Sun, located approximately 4.25 to 4.37 light-years away. It is a hierarchical triple star system comprising two Sun-like stars, Alpha Centauri A (a G2V main-sequence star) and Alpha Centauri B (a K1V orange dwarf), which orbit a common barycenter every 79 years, along with a distant, much smaller red dwarf companion, Proxima Centauri (M5.5V).

Given its immediate proximity to the Solar System, Alpha Centauri has been a pervasive staple of both mainstream sci-

ence fiction and niche ufology. Extraterrestrial lore attributes the system as the home of the "Apunians," entities supposedly originating from a utopian planet named Apu, as well as the overarching concept of "Centaurans". Lore established in the 1970s and 1980s, often bleeding over from authorized science fiction universes into genuine contactee belief systems, depicted Centaurans as highly ethical humanoids virtually indistinguishable from Earthlings, who guided human technological development.

Unlike the massive stars of Orion or the youthful Pleiades, the Alpha Centauri system is theoretically capable of supporting biological life. Extensive X-ray monitoring conducted by NASA's Chandra X-ray Observatory over several decades has confirmed that both Alpha Centauri A and Alpha Centauri B do not emit dangerous, sterilizing levels of X-ray radiation into their respective habitable zones, making them excellent, stable candidates for hosting habitable terrestrial exoplanets.

However, physically detecting rocky terrestrial planets around Alpha Centauri A and B has proven to be an immense observational challenge due to the blinding glare produced by the close binary system. Recently, utilizing the Mid-Infrared Instrument (MIRI) aboard the James Webb Space Telescope with a highly specialized coronagraphic mask to block stellar glare, astronomers successfully imaged a candidate planet orbiting Alpha Centauri A at a separation of approximately 1.1 to 2.0 astronomical units. If this detection is definitively confirmed as an exoplanet rather than a background artifact or zodiacal dust, this object would reside comfortably within the star's habitable zone. Nevertheless, its estimated physical size, calculated to be between five and seven times the mass

of Earth, strongly suggests it is a gas giant or sub-Neptune, rendering it entirely incapable of supporting life as we know it, though theoretical, currently undetectable habitable exomoons orbiting the giant cannot be entirely ruled out.

Proxima Centauri, conversely, has at least three confirmed planetary bodies, including Proxima Centauri b, a rocky terrestrial world with a minimum mass of 1.07 Earth masses orbiting within the star's conservative habitable zone with an estimated equilibrium temperature of 228 Kelvin. Despite its highly temperate orbit, Proxima b's actual habitability is severely compromised by the violent nature of its host star. As a highly active, convective M-dwarf, Proxima Centauri emits frequent and violent superflares. In 2019, astronomers recorded a plasma jet from the star that was 100 times more powerful than any flare ever produced by the Sun. Such catastrophic stellar events would likely strip the atmosphere of any tidally locked planet in its close vicinity and bathe the planetary surface in lethal ultraviolet and ionizing radiation, making the existence of the Apunians highly improbable. In 2020, the Breakthrough Listen project detected a narrowband radio signal (dubbed "BLC1") appearing to originate from the direction of Proxima Centauri, sparking intense global interest regarding potential technosignatures; however, exhaustive subsequent analysis confirmed the signal to be complex human-made radio frequency interference rather than an alien transmission.

Epsilon Eridani and Tau Ceti: Early SETI Targets Absorbed by Contactee Lore

Epsilon Eridani (located 10.5 light-years away) and Tau Ceti (located 11.9 light-years away) are among the closest single Sun-like stars to Earth. Because of their relative proximity, solar-analog spectral classifications, and singular nature (unlike Alpha Centauri's binary arrangement), they were selected as the very first targets of Dr. Frank Drake's groundbreaking Project Ozma in 1960, marking the pioneering effort in the Search for Extraterrestrial Intelligence (SETI).

The intense cultural and media awareness of these specific stars resulting from Project Ozma's radio telescope scans rapidly bled into UFO lore and popular consciousness. Over subsequent decades, contactees and fringe mythologies have explicitly cited Epsilon Eridani and Tau Ceti as homes to advanced humanoid spacefaring races, weaving them into the sprawling tapestry of the Union of Galactic Republics and other esoteric narratives.

Decades of subsequent, highly detailed astronomical observation have revealed that neither system is a prime candidate for hosting advanced life, largely due to systemic architectural issues invisible to the astronomers of the 1960s.

- **Epsilon Eridani** is an exceptionally young K2V orange dwarf star, with modern estimates placing its age between a mere 200 million and 800 million years old. Because of its extreme youth, the star spins on its axis rapidly, generating a highly potent magnetic field that subjects its orbital vicinity to intense stellar winds, X-ray outbursts, and ultraviolet radiation. Furthermore,

infrared observations from the Hubble and Spitzer space telescopes have revealed that the star is surrounded by massive, overlapping debris disks consisting of asteroid and comet belts, making the entire inner system highly chaotic and prone to catastrophic, extinction-level impact events. The system currently contains one confirmed planet, Epsilon Eridani b (named AEGir), which is a Jupiter-mass gas giant orbiting at a 30-degree incline aligned precisely with the outer dust disk, an architecture that renders the inner system entirely unsuited for stable terrestrial life.

- **Tau Ceti** is a much more mature G8.5V solar analog, but it suffers from a remarkably similar debris disk issue. Deep space observations indicate that Tau Ceti hosts a massive debris disk containing more than ten times the total cometary and asteroidal material found in our entire Solar System. This implies that any terrestrial planet attempting to form or sustain life in the system would endure relentless, sterilizing impact events over billions of years. While high-precision radial velocity surveys have proposed the existence of up to five candidate planets in the system (including the potentially habitable zone planets Tau Ceti e and f), rigorous dynamical analysis suggests these are likely massive super-Earths or sub-Neptunes rather than Earth analogs. Furthermore, advanced stellar evolution models indicate that as Tau Ceti has gradually grown more luminous over its lifespan, if the planet Tau Ceti f is currently in the habitable zone, it only entered this temperate region relatively recently. This means that bio-

logical life would not have had the requisite billions of years of stable temperatures required to evolve and establish detectable atmospheric biosignatures. As of the mid-2020s, unambiguous confirmation of these candidate planets via transit or imaging remains elusive, casting further doubt on the system's viability.

The Extragalactic Impossibility: The Andromeda Misconception

Extraterrestrial lore frequently extends beyond the Milky Way, with numerous contactee reports, including New Age Starseed mythology, citing contact with highly evolved, telepathic beings from the "Andromeda galaxy" or the Andromeda constellation.

The astronomical reality highlights a fundamental misunderstanding of cosmic scale inherent in ufological lore. The Andromeda galaxy is located over 2.5 million light-years away. Detecting, let alone communicating with, an Earth-sized terrestrial planet at that distance borders on the impossible with current or near-future technology. In recent years, a team of scientists utilized gravitational microlensing to come up with a tentative detection of an extragalactic exoplanet in Andromeda, designated PA-99-N2. However, the lensing pattern fits a massive object weighing approximately 6.34 times the mass of Jupiter. Our ability to resolve individual planets as far away as Andromeda is restricted strictly to massive gas giants acting as gravitational lenses, rendering the specific ufological claims of pinpointing localized humanoid civilizations in neighboring galaxies scientifically meaningless.

Fringe Narratives and Obscure Systems: Ummo, Iarga, Clarion, and Korendor

Beyond the highly prominent, visible stars, specific fringe contactee cases have proposed entirely unique star systems and planets, many of which also collapse under astrometric scrutiny.

- **Ummo:** The "Ummo affair" was an elaborate and sophisticated hoax originating in Madrid, Spain, in the 1960s, driven primarily by author Fernando Sesma and later by José Luis Jordan Peña. The extensive lore, propagated through thousands of pages of mailed technical documents and photographs of saucer-shaped craft bearing a distinct symbol, claimed an alien species inhabited the planet Ummo, which orbited the star Iumma. The authors claimed this star was located 14.6 light-years away, leading many in the UFO community to associate it with the real star Wolf 424. In astrophysical reality, Wolf 424 is a binary system consisting of two incredibly faint red dwarfs known for extreme, rapid flaring. The system utterly lacks any confirmed planetary bodies capable of hosting the detailed, utopian, socio-political society described in the exhaustive Ummo documents.
- **Iarga:** Dutch contactee Stefan Denaerde published a detailed account claiming an encounter in 1969 with highly evolved, aquatic beings from the planet Iarga, which he described as a water-covered super-Earth located approximately 10 light-years away from our Solar System. Current, exhaustive astronomical surveys cov-

ering a strict 10-light-year radius encompass roughly 14 star systems, primarily consisting of tiny red and brown dwarfs. Absolutely none of these systems possess a confirmed terrestrial water-world matching the detailed environmental conditions of Iarga.

- **Clarion:** In 1952, American contactee Truman Bethurum claimed extended contact with human-looking beings from the utopian planet Clarion, led by a female captain named "Aura Rhanes". Bethurum originally claimed that Clarion was located on the "other side of the Moon" or in a counter-Earth orbit permanently hidden behind the Sun. Basic orbital mechanics, the laws of gravity, and the advent of lunar satellites completely invalidated these claims, relegating Clarion to the realm of pseudoscience and early 1950s space-age fantasy.
- **Korendor, Acart, and Metharia:** Various other fringe narratives cite origins such as Korendor (allegedly orbiting a star in our local neighborhood), the planet Acart, or the Santinians originating from the planet Metharia (sometimes associated with the Alpha Centauri system in authorized sci-fi lore that bled into ufology). None of these specific planetary bodies correlate with any confirmed radial velocity, transit, or astrometric exoplanetary discoveries.

Table 1: Astrobiological Assessment of Ufology's Claimed Star Systems

Claimed Origin System	Distance (ly)	Actual Stellar Type	Stellar Age	Estimated Age	Assessment (2024)
Zeta Reticuli	39.3	G3-5V / G2V		~2 Gyr	firmly Astronomical
Sirius	8.6	A0mA1 Va / DA2		200-300 Myr	firmly Astronomical
Pleiades (Alcyone)	~444	B7IIIe		75-150 Myr	trivially confirmed astronomical
Orion (Rigel)	~863	B8 I (Supergiant)		< 10 Myr	confirmed astronomical

Claimed Origin System	Distance (ly)	Actual Stellar Type	Stellar Age	Estimated Age	Star Name (2024)
Alpha Centauri A	4.37	G2V	4.5 - 5 Gyr	4.5 - 5 Gyr	Proxima Centauri (Alpha Centauri C)
Epsilon Eridani	10.5	K2V	~800 Myr	~800 Myr	51 Eridani (Epsilon Eridani B)
Tau Ceti	11.9	G8.5V	5.8 Gyr	5.8 Gyr	55 Ceti (Tau Ceti B)
Wolf 424 (Umma)	14.2	M5.5Ve / M7Ve	Unknown	Unknown	Proxima Centauri (Alpha Centauri C)

The M-Dwarf Disconnect: Where the Actual Habitable Worlds Reside

The rigorous cross-referential analysis of the data reveals a profound scientific irony. While twentieth-century ufology focused its elaborate narratives entirely on bright, culturally visible stars (Sirius, Orion, the Pleiades) and early, widely publicized SETI targets (Tau Ceti, Epsilon Eridani), twenty-first-century exoplanetology has discovered that the vast majority of stable, terrestrial, and potentially habitable exoplanets actually reside in tight orbits around faint, optically invisible M-type red dwarfs.

Leading Candidates in the Habitable Worlds Catalog (2024-2026)

The Planetary Habitability Laboratory identifies several prime candidates for astrobiological habitability, almost all of which orbit red dwarfs within our local stellar neighborhood. Notably, these stars are entirely absent from the classic canon of extraterrestrial lore.

- **Ross 128 b:** Orbiting the M4V star Ross 128 at a distance of just 11.0 light-years, this terrestrial exoplanet has a minimum mass of 1.40 Earth masses and a highly favorable equilibrium temperature of 280 Kelvin. Crucially, unlike the violently active Proxima Centauri, Ross 128 is classified as a "quiet" red dwarf. It lacks the frequent, violent solar flares that threaten atmospheric retention, making it one of the most temperate and viable candidates for stable surface liquid water in the entire galactic neighborhood. In 2017, pe-

culiar, uncharacterized radio signals from Ross 128 briefly stimulated theories of extraterrestrial intelligence among the public, though astronomers later definitively identified them as broadband interference from high-orbit Earth satellites.

- **Gliese 12 b:** Discovered and extensively profiled in 2024, this terrestrial planet orbits an M4V star 39.7 light-years away. With a mass tightly estimated between 0.71 and 0.95 Earth masses, a radius of 0.904 Earth radii, and a moderate equilibrium temperature of 315 Kelvin, it represents an exceptionally rare Venus- or Earth-analog candidate lying right at the inner edge of the habitable zone.
- **Teegarden's Star b and c:** Located 12.5 light-years away, these two Earth-mass planets orbit an ultra-cool M7V dwarf. Planet b possesses an equilibrium temperature of 264 Kelvin, placing it firmly within the conservative habitable zone.
- **GJ 251 c:** Orbiting an active M-dwarf just 18 light-years away in the constellation Gemini, this "super-Earth" resides securely in the habitable zone where liquid water could be sustained. Advanced spectrographs, specifically the Habitable-zone Planet Finder (HPF) at Penn State and the NEID spectrometer at Kitt Peak, confirmed its 54-day orbit. Because of its proximity, it is considered an ideal, high-priority target for future direct imaging by next-generation Thirty Meter-class telescopes.
- **Luyten b (GJ 273 b) and GJ 1061 c/d:** These terrestrial-mass planets orbit close red dwarfs (12.3 and

12 light-years away, respectively) and present excellent equilibrium temperatures for potential habitability based on planetary modeling.

- **LHS 1140 b:** Located 49 light-years away, this massive 5.60 Earth-mass super-Earth is increasingly viewed by planetary scientists as a highly probable "ocean world" possessing a thick, retained atmosphere and substantial surface water content.

Further highlighting the disparity between lore and science are local red dwarfs like Wolf 359 and Barnard's Star. Wolf 359 (7.8 light-years away) is a famous UV Ceti-type flare star; despite its volatility, it was deemed a viable enough candidate that astronomers utilized the TRAPPIST-South and SPECULOOS-South robotic telescopes to search for optical technosignatures utilizing the star as a gravitational lens, yielding a null result. Barnard's Star (6.0 light-years away) was the subject of intense early exoplanet claims by Peter van de Kamp in the 1960s, all of which were disproven; recent claims of a super-Earth were also retracted as stellar flare artifacts, though a sub-Earth mass planet (Barnard b) orbiting in just three days was recently confirmed, rendering it far too hot for life. Despite this, it remains a prime target for SETI, with the Five-hundred-meter Aperture Spherical Telescope (FAST) recently scanning it for narrow-band extraterrestrial emissions.

Even nearby systems like Lalande 21185, located just 8.3 light-years away, harbor confirmed planets. However, precise radial velocity measurements by the HARPS and ESPRESSO spectrographs reveal that Lalande 21185 b and c orbit either

too close (too hot) or too far (too cold) to reside within the star’s exceedingly narrow habitable zone.

Table 2: The Habitable Worlds Catalog (HWC)
Empirical Leading Candidates (2024-2026)

Exoplanetary Candidate	Host Star Classification	Distance (ly)	Mass ($M_{\oplus}$)	Te
Ross 128 b	M4V (Quiet Red Dwarf)	11.0	≥ 1.40	
Gliese 12 b	M4V (Red Dwarf)	39.7	0.71 / 0.95	
Teegarden b	M7V (Ultra-cool Dwarf)	12.5	≥ 1.05	
Luyten b	M3V (Red Dwarf)	12.3	≥ 2.89	

Exoplanetary Candidate	Host Star Classification	Distance (ly)	Mass ($M_{\oplus}$)	Temperature
GJ 251 c	M-Dwarf	18.0	Super-Earth	
LHS 1140 b	M4V (Red Dwarf)	49.0	5.60	

The Complexities of Biosignatures: TRAPPIST-1 and K2-18 b

The empirical search for exoplanetary life is not without its dramatic false alarms, demonstrating the rigorous, self-correcting nature of the scientific method—an epistemological mechanism that is notably absent in the static dogma of ufo-logical lore.

The **TRAPPIST-1** system, an ultra-cool red dwarf located roughly 40 light-years away, initially sparked massive global optimism due to the unprecedented discovery of seven Earth-sized rocky planets, three of which (TRAPPIST-1e, f, and g) reside comfortably within the star's calculated habitable zone. Given this highly favorable architecture, SETI researchers heavily targeted the system. Utilizing the Allen Telescope Array (ATA), scientists spent 28 hours scanning for

technosignatures, specifically looking for radio leakage caused by planet-planet occultations, yielding entirely null results. Furthermore, recent, highly detailed spectroscopic modeling utilizing fresh JWST data has significantly dampened early enthusiasm. The data suggests that the intense stellar radiation and magnetic winds emitted by the ultra-cool dwarf star during its volatile youth have likely stripped the atmospheres of the inner planets completely, and severely hindered atmospheric retention even for the habitable zone planets.

Similarly, the sub-Neptune exoplanet **K2-18 b**, located 124 light-years away, generated explosive global headlines in 2023 when early JWST analyses using the NIRSpec instrument hinted at the presence of dimethyl sulfide (DMS) in its atmosphere. On Earth, DMS is an atmospheric biosignature overwhelmingly produced by biological processes, specifically marine phytoplankton. The prospect that K2-18 b was an inhabited "Hycean" (a portmanteau of hydrogen-atmosphere and ocean) world teeming with marine life was deeply compelling. However, rigorous follow-up analyses published in 2024 and 2025, which utilized the Mid-Infrared Instrument (MIRI) to gather broader spectral data, failed entirely to substantiate the DMS signal. The subsequent studies demonstrated the signal to be a false positive, likely an artifact of data noise or misidentified overlapping chemical spectral lines belonging to common, abiotic molecules. This ongoing, painstaking process of hypothesis and verification underscores the immense difficulty of definitively proving the existence of extraterrestrial biology, even with state-of-the-art multi-billion-dollar space instrumentation.

Second and Third-Order Insights: The Visibility Bias and the Sociology of Lore

By cross-referencing the rigorously vetted database of confirmed, viable exoplanets against the vast annals of reported extraterrestrial encounters, profound sociological, psychological, and epistemological insights emerge regarding the true origins of UFO lore.

The most glaring and undeniable trend present in the data is a phenomenon that can be classified as the "Anthropocentric Visibility Bias." The star systems completely central to twentieth-century ufology—Sirius, the Pleiades, Orion, and Alpha Centauri—share a single, critical common denominator: they are among the brightest, most culturally significant objects in the night sky visible to the naked human eye. Ancient human civilizations, including the Greeks, Egyptians, Dogon, and Sumerians, built their entire mythological and agricultural frameworks around the movements of these highly luminous celestial bodies.

When the modern UFO contactee movement emerged in the 1890s through the 1950s—driven by figures ranging from occultists claiming astral projection to Mars, to physical contactees like Truman Bethurum and Stefan Denaerde—individuals formulating narratives of extraterrestrial origin unconsciously projected their claims onto the only astronomical geography they understood. They looked to the bright stars deeply embedded in human culture. Consequently, contactee lore attributed ancient, highly evolved, spiritually advanced civilizations to stars like Rigel, Bellatrix, and Alcyone, utterly ignorant of the astrophysical reality that these are massive B-type and O-type supergiants. Third-order reasoning re-

veals a profound cosmic paradox: the stars most prominent and beautiful to human eyes on Earth are intrinsically the most massive and luminous, meaning they burn through their nuclear fuel in fractions of cosmic time. Therefore, the stars most visibly obvious to humanity are, by the unbreakable laws of stellar physics, the absolute *least* likely locations in the entire galaxy to harbor advanced biological life.

Furthermore, extraterrestrial lore directly mirrors the limitations and errors of astronomical science at the exact time the lore was initially created. In the 1960s, Epsilon Eridani and Tau Ceti were the focus of Project Ozma, representing the scientific community's best, albeit limited, guess for neighboring habitable systems. Almost immediately, these stars were aggressively assimilated into contactee narratives as definitive alien homeworlds. It was only decades later that advanced infrared astronomy revealed the massive, sterilizing debris disks surrounding both stars, proving them inhospitable, but the lore had already calcified into rigid belief. Similarly, the Betty Hill star map, analyzed heavily in the 1970s, relied on early, highly imperfect stellar catalogs to trace a forced, two-dimensional route to Zeta Reticuli. Modern astrometry via the Gaia and Hipparcos satellites has completely redrawn the three-dimensional map of our local stellar neighborhood, irrevocably dissolving the specific geometric alignments that originally validated the Zeta Reticuli connection.

A clear, undeniable inverse relationship exists between a star's prevalence in ufological lore and its actual astrobiological viability. The M-dwarf systems that currently dominate the Habitable Worlds Catalog—Ross 128, Gliese 12, Teegarden's Star, Luyten's Star, and LHS 1140—are completely, no-

tably absent from decades of contactee reports, UFO abduction literature, and New Age channeling phenomena. These highly viable stars are faint red dwarfs, utterly invisible to the naked eye, and mostly obscure outside of specialized astrophysical circles. If alleged extraterrestrial contactees were genuinely acquiring accurate geographic information from highly advanced interstellar beings, their origin narratives would heavily, if not exclusively, feature these obscure M-dwarf systems. The fact that the sprawling lore universally ignores the actual, physically habitable locations in the local stellar neighborhood in favor of highly visible, radiation-blasted, fast-burning supergiants and white-dwarf binaries serves as definitive, empirical proof of the earthly, sociological, and psychological origin of these contactee narratives.

Conclusion

The extensive, data-driven cross-referential analysis between the empirical catalog of confirmed exoplanets and the reported origins of extraterrestrial encounters reveals a fundamental, irreconcilable incompatibility. The science of astrobiology and exoplanetology has matured dramatically over the past three decades, definitively mapping the local stellar neighborhood and identifying over 6,000 exoplanets. Within this massive dataset, a highly refined subset of terrestrial worlds residing in true habitable zones has been identified. These viable worlds, such as Ross 128 b, Gliese 12 b, and GJ 251 c, are predominantly found in tight orbits around quiet, long-lived M-type red dwarfs.

Conversely, the star systems overwhelmingly championed by ufology and extraterrestrial contactee lore—Sirius, the Pleiades, Orion, and Zeta Reticuli—are physically and temporally precluded from hosting advanced biological life. White dwarf radiation, chaotic binary orbital dynamics, supergiant extreme temperatures, and drastically truncated stellar lifespans render these specific systems entirely sterile. The presence of these specific stars in UFO lore is not the result of genuine interstellar communication or visitation, but rather an artifact of anthropocentric projection and visibility bias. The human imagination, unequipped with modern spectroscopy, radial velocity instruments, or space telescopes, simply looked up at the brightest, most culturally significant lights in the night sky and populated them with elaborate, localized myths.

Ultimately, while the rigorous, empirical search for extraterrestrial life continues through the painstaking technological observation of atmospheric biosignatures and potential technosignatures, the historical lore of extraterrestrial visitation remains a fascinating artifact of human sociology and cultural evolution, rather than an accurate or predictive map of the astrobiological cosmos.

Works cited

1. Exoplanets - NASA Science, <https://science.nasa.gov/exoplanets/>
2. Exoplanet Catalog - NASA Science, <https://science.nasa.gov/exoplanets/exoplanet-catalog/>
3. NASA just confirmed its 6,000th alien world. Some are truly bizarre - ScienceDaily, <https://www.sciencedaily.com/re->

leases/2025/09/250920214427.htm 4. List of potentially habitable exoplanets - Wikipedia, https://en.wikipedia.org/wiki/List_of_potentially_habitable_exoplanets 5. Did we actually find signs of alien life on K2-18b? 'We should expect some false alarms and this may be one' | Space, <https://www.space.com/space-exploration/search-for-life/did-we-actually-find-signs-of-alien-life-on-k2-18b-we-should-expect-some-false-alarms-and-this-may-be-one> 6. PHL @ UPR Arecibo - Habitable Worlds Catalog, <https://phl.upr.edu/hwc> 7. Alien Encounter Timeline - Cryptid Wiki - Fandom, https://cryptidz.fandom.com/wiki/Alien_Encounter_Timeline 8. 10 Alien Species Believed to Be Visiting Earth | Articles on WatchMojo.com, <https://www.watchmojo.com/articles/10-types-of-alien-that-are-allegedly-visiting-earth> 9. The Union of Galactic Republic | Extraterrestrial Fanon Wiki - Fandom, https://extraterrestrialfanon.fandom.com/wiki/The_Union_of_Galactic_Republic 10. Orion - Alien Species Wiki - Fandom, <https://aliens.fandom.com/wiki/Orion> 11. Planetary objects proposed in religion, astrology, ufology and pseudoscience - Wikipedia, https://en.wikipedia.org/wiki/Planetary_objects_proposed_in_religion,_astrology,_ufology_and_pseudoscience 12. UFO Contact from Planet Iarga, <http://www.alternatieviewiskunde.nl/denaerde/IargaIntro.htm> 13. Ummo Hoax | Encyclopedia.com, <https://www.encyclopedia.com/science/encyclopedias-almanacs-transcripts-and-maps/ummo-hoax> 14. Is there any habitable exoplanet around Tau Ceti? - Astronomy Stack Exchange, <https://astronomy.stackexchange.com/questions/29523/is-there-any-habitable-exoplanet-around-tau-ceti> 15.

List of Nearby Stars: To 26 light years - Johnston's Archive, <https://www.johnstonsarchive.net/astro/nearstar.html> 16. Lalande 21185 b, http://www.exoplanetkyoto.org/exohtml/Lalande_21185_b.html 17. Stellar Classification | Beyond Universe Wiki - Fandom, https://beyond-universe.fandom.com/wiki/Stellar_Classification 18. Alcyone (star) - Wikipedia, [https://en.wikipedia.org/wiki/Alcyone_\(star\)](https://en.wikipedia.org/wiki/Alcyone_(star)) 19. Alcyone | Cosmology and Astronomy Encyclopedia Wiki | Fandom, <https://cosmology-and-astronomy-encyclopedia.fandom.com/wiki/Alcyone> 20. The Centauri Star System -An Overview of Our Nearest Stellar Neighbors - ResearchGate, [https://www.researchgate.net/publication/390132969_The_Centauri_Star_System_-](https://www.researchgate.net/publication/390132969_The_Centauri_Star_System_-_An_Overview_of_Our_Nearest_Stellar_Neighbors)
[An_Overview_of_Our_Nearest_Stellar_Neighbors](https://www.researchgate.net/publication/390132969_The_Centauri_Star_System_-_An_Overview_of_Our_Nearest_Stellar_Neighbors) 21. Star Ross 128 - Stellar Catalog, <https://www.stellarcatalog.com/stars/ross-128> 22. UC Irvine astronomers discover nearby exoplanet in habitable zone, <https://news.uci.edu/2025/10/23/uc-irvine-astronomers-discover-nearby-exoplanet-in-habitable-zone/> 23. New Studies Indicate Life on TRAPPIST-1's Exoplanets Might be Impossible - Futurism, <https://futurism.com/new-studies-indicate-life-on-trappist-1s-exoplanets-might-be-impossible> 24. NASA's Planet-Hunting Kepler Tackles Mysteries of the Pleiades' 'Seven Sisters' - Space, <https://www.space.com/38001-kepler-mysteries-pleiades-seven-sisters.html> 25. Researchers confirm existence of exoplanet in 'habitable zone', <https://www.physics.ox.ac.uk/news/researchers-confirm-existence-exoplanet-habitable-zone> 26. Tau Ceti - Wikipedia, https://en.wikipedia.org/wiki/Tau_Ceti 27. Extragalactic planet - Wikipedia, https://en.wikipedia.org/wiki/Extragalactic_planet 28. Evi-

dence Found for Planet around Closest Sun-Like Star - [www.caltech.edu](https://www.caltech.edu/about/news/evidence-found-for-planet-around-closest-sun-like-star), <https://www.caltech.edu/about/news/evidence-found-for-planet-around-closest-sun-like-star> 29. Zeta Reticuli - Wikipedia, https://en.wikipedia.org/wiki/Zeta_Reticuli 30. Zeta Reticuli star system | BBC Sky at Night Magazine, <https://www.skyatnightmagazine.com/space-science/zeta-reticuli-binary-star-system> 31. The Truth About Betty Hill's UFO Star Map | UFO: The Lost Evidence - YouTube, <https://www.youtube.com/watch?v=SmDxXcRCkN4> 32. List of alleged extraterrestrial beings - Wikipedia, https://en.wikipedia.org/wiki/List_of_alleged_extraterrestrial_beings 33. The Truth about Betty Hill's UFO Star Map - Astronotes - Armagh Planetarium, <https://armaghplanet.com/betty-hills-ufo-star-map-the-truth.html> 34. Why We Traded 12 Aliens For 12 Humans | Project Serpo | Full Documentary - YouTube, <https://www.youtube.com/watch?v=rwFbS95M2Ms> 35. Bob Lazar, The Zeta Reticuli star system and NMS... : r/NoMansSkyTheGame - Reddit, https://www.reddit.com/r/NoMansSkyTheGame/comments/cpsyfa/bob_lazar_the_zeta_reticuli_star_system_and_nms/ 36. Are there planets in the zeta reticuli binary star system? - askIITians, https://www.askiitians.com/forums/12-grade-physics-others/are-there-planets-in-the-zeta-reticuli-binary-star_445436.htm 37. Betty Hill's Star Map, Zeta Reticuli, and Prometheus - Dr. Michael Heiser, <https://drmsh.com/betty-hills-star-map-zeta-reticuli-prometheus/> 38. Is it true that Betty Hill drew the map of Zeta Reticuli star system where she saw it in the space ship before it was discovered? And that map later con-

firmed by astronomers? If it's true than wouldn't that make Betty and Barney Hill abductions legit? : r/HighStrangeness - Reddit, <https://www.reddit.com/r/HighStrangeness/comments/xksrhr/>

is_it_true_that_betty_hill_draw_the_map_of_zeta/ 39.

Brightest Stars - UNLV Physics,

[https://www.physics.unlv.edu/~jeffery/astro/star/](https://www.physics.unlv.edu/~jeffery/astro/star/star_brightest2.html)

star_brightest2.html 40. Sirius - Wikipedia,

<https://en.wikipedia.org/wiki/Sirius> 41. The Sirius Mystery

- Wikipedia, [https://en.wikipedia.org/wiki/The_Sirius_Mys-](https://en.wikipedia.org/wiki/The_Sirius_Mystery)

tery 42. African Tribe's SHOCKING Origin Story in the

Stars | Ancient Aliens (Season 1) | History,

<https://www.youtube.com/watch?v=GX5bZvuD6kE> 43.

Sirius: The brightest star in Earth's night sky - Space,

<https://www.space.com/21702-sirius-brightest-star.html> 44.

Ask Astro: Is Sirius part of the Milky Way? Does it have any

planets? - Astronomy Magazine, [https://www.astron-](https://www.astronomy.com/science/ask-astro-is-sirius-part-of-the-milky-way-does-it-have-any-planets/)

omy.com/science/ask-astro-is-sirius-part-of-the-milky-way-

does-it-have-any-planets/ 45. Pleiades - Wikipedia,

<https://en.wikipedia.org/wiki/Pleiades> 46. The dark histori-

cal roots of 'starseeds' | by Jules Evans - Medium, [https://jule-](https://julesevans.medium.com/)

sevans.medium.com/

the-weird-history-of-starseeds-7df5127be9c3 47. Orion (con-

stellation) - Wikipedia, [https://en.wikipedia.org/wiki/](https://en.wikipedia.org/wiki/Orion_(constellation))

Orion_(constellation) 48. Discovering exoplanets in Pleiades

with transiting exoplanet survey satellite - ResearchGate,

[https://www.researchgate.net/publication/373409306_Dis-](https://www.researchgate.net/publication/373409306_Discovering_exoplanets_in_Pleiades_with_transiting_exo-planet_survey_satellite)

covering_exoplanets_in_Pleiades_with_transiting_exo-

planet_survey_satellite 49. Astronomers find the 'Greater

Pleiades Complex' - Astronomy Magazine, <https://www.as->

tronomy.com/science/astronomers-find-the-greater-pleiades-complex/ 50. Constellation: Orion - NOIRLab, <https://noirlab.edu/public/education/constellations/orion/> 51. Getting to Know Orion: Stars, Nebulas, Meteors, Oh My! | Museum of Science, <https://www.mos.org/article/getting-know-orion-stars-nebulas-meteors-oh-my> 52. Orion's Belt — Stars, mythology and how to find it | Space, <https://www.space.com/28072-orions-belt.html> 53. HD 34445 b - Wikipedia, https://en.wikipedia.org/wiki/HD_34445_b 54. Have any planets been discovered in Orion constellation? - Astronomy Stack Exchange, <https://astronomy.stackexchange.com/questions/13545/have-any-planets-been-discovered-in-orion-constellation> 55. Alpha Centauri - Wikipedia, https://en.wikipedia.org/wiki/Alpha_Centauri 56. The Centaurans, the founding members of the Federation that never existed - Reddit, https://www.reddit.com/r/DaystromInstitute/comments/lxjxl5/the_centaurans_the_founding_members_of_the/ 57. Alpha Centauri system could have favorable conditions for life - Astronomy Magazine, <https://www.astronomy.com/science/alpha-centauri-system-could-have-favorable-conditions-for-life/> 58. Alpha Centauri: A Triple Star System about 4 Light Years from Earth - NASA, <https://www.nasa.gov/image-article/alpha-centauri-triple-star-system-about-4-light-years-from-earth/> 59. NASA's Webb Finds New Evidence for Planet Around Closest Solar Twin, <https://science.nasa.gov/missions/webb/nasas-webb-finds-new-evidence-for-planet-around-closest-solar-twin/> 60. Webb Finds New Evidence For A Large Planet Orbiting in The Habitable Zone Of Alpha Centauri A - Astrobiology Web, <https://astrobiology.com/2025/08/webb->

finds-new-evidence-for-a-large-planet-orbiting-in-the-habitable-zone-of-alpha-centauri-a.html 61. Alpha Centauri, sun's closest stellar neighbor, likely harbors giant planet, <https://astro.arizona.edu/news/alpha-centauri-suns-closest-stellar-neighbor-likely-harbors-giant-planet> 62. Alpha Centauri Ab - Wikipedia, https://en.wikipedia.org/wiki/Alpha_Centauri_Ab 63. The Hunt for Life in Alpha Centauri - JSTOR Daily, <https://daily.jstor.org/the-hunt-for-life-in-alpha-centauri/> 64. Alpha Centauri: Facts about the stars next door - Space, <https://www.space.com/18090-alpha-centauri-nearest-star-system.html> 65. Aliens at Proxima Centauri? A New Radio Signal Raises the Question - The Planetary Society, <https://www.planetary.org/articles/aliens-at-proxima-centauri-a-new-radio-signal-raises-the-question> 66. The Secret Origins of the Search for Extraterrestrial Intelligence - Discover Magazine, <https://www.discovermagazine.com/the-secret-origins-of-the-search-for-extraterrestrial-intelligence-1191> 67. Epsilon Eridani: April 9, 2020 - StarDate Online, <https://stardate.org/podcast/2020-04-09> 68. Fun Fact: Epsilon Eridani (Reach) and Tau Ceti (Bungie's Marathon) were part of the first modern SETI mission : r/HaloStory - Reddit, https://www.reddit.com/r/HaloStory/comments/16v1boc/fun_fact_epsilon_eridani_reach_and_tau_ceti/ 69. Communication with Extraterrestrial Intelligence1, <https://www.nsa.gov/portals/75/documents/news-features/declassified-documents/tech-journals/communications-extraterrestrial-intelligence.pdf> 70. Communication with Extraterrestrial Intelligence, https://www.nsa.gov/portals/75/documents/news-features/declassified-documents/crypto-logic-spectrum/communications_with_extraterrestrial.pdf

71. Hubble Observations Confirm that Planets Form from Disks Around Stars - NASA Science, <https://science.nasa.gov/missions/hubble/hubble-observations-confirm-that-planets-form-from-disks-around-stars/> 72. Epsilon Eridani - Wikipedia, https://en.wikipedia.org/wiki/Epsilon_Eridani 73. Astronomer Announces Shortlist Of Stellar Candidates For Habitable Worlds | ScienceDaily, <https://www.sciencedaily.com/releases/2006/02/060221090638.htm> 74. Nearby Alien Planets Not So Life-Friendly After All | Space, <https://www.space.com/29191-exoplanets-tau-ceti-alien-life.html> 75. Tau Ceti e - NASA Science, <https://science.nasa.gov/exoplanet-catalog/tau-ceti-e/> 76. Known planets in the Andromeda Galaxy : r/NoStupidQuestions - Reddit, https://www.reddit.com/r/NoStupidQuestions/comments/1mzzbix/known_planets_in_the_andromeda_galaxy/ 77. 67 - The Ummo Affair - The Nonsense Bazaar - Apple Podcasts, <https://podcasts.apple.com/us/podcast/67-the-ummo-affair/id1564811399?i=1000574828210> 78. Ummo, <https://the-universe-of-the-universe.fandom.com/wiki/Ummo> 79. 1969 UFO Contact From Planet Iarga — Their Society, Laws, and Way of Life : r/HighStrangeness - Reddit, https://www.reddit.com/r/HighStrangeness/comments/1qixt3b/1969_ufo_contact_from_planet_iarga_their_society/ 80. Wendelle C. Stevens - UFO Contact From Planet Iarga | PDF | Race (Human Categorization) - Scribd, <https://www.scribd.com/document/419955243/Wendelle-C-Stevens-UFO-Contact-from-Planet-Iarga> 81. Truman Bethurum - Wikipedia, https://en.wikipedia.org/wiki/Truman_Bethurum 82. A Guide to the Lore of Alpha Centauri

: r/alphacentauri - Reddit, https://www.reddit.com/r/alphacentauri/comments/1hd6dbx/a_guide_to_the_lore_of_alpha_centauri/ 83. 'Weird!' Signal from Ross 128 isn't from Extraterrestrial Intelligence, Astronomers Say, <https://www.sci.news/astronomy/weird-signal-ross-128-extraterrestrial-intelligence-05064.html> 84. Earth-Sized Planet Detected Just 11 Light Years Away - Smithsonian Magazine, <https://www.smithsonianmag.com/smart-news/earth-has-new-planetary-friend-living-nice-neighborhood-180967233/> 85. Why the radio signal from dwarf star Ross 128 is not worth freaking out over, and showcases what is wrong with scientific journalism today - Reddit, https://www.reddit.com/r/space/comments/6o1n06/why_the_radio_signal_from_dwarf_star_ross_128_is/ 86. Very peculiar signals are coming from a nearby star, scientists at Arecibo Observatory say | The Independent, <https://www.the-independent.com/tech/ross-128-nearby-star-aliens-signals-peculiar-arecibo-observatory-ross-128-flares-a7845076.html> 87. Gliese 12 b - NASA Science, <https://science.nasa.gov/exoplanet-catalog/gliese-12-b/> 88. Nearby super-Earth emerges as a top target in the search for life | ScienceDaily, <https://www.sciencedaily.com/releases/2025/11/251122044338.htm> 89. HPF Discovers a Potentially Earth-like Exoplanet That Could Be Imaged by Next-Generation Telescopes | The Habitable Zone Planet Finder, <https://hpf.psu.edu/2025/10/23/gj251c/> 90. Newly discovered 'super-Earth' offers prime target in search for alien life - Penn State, <https://www.psu.edu/news/research/story/newly-discovered-super-earth-offers-prime-target-search-alien-life> 91. Investigating every poten-

tially habitable exoplanet - YouTube, <https://www.youtube.com/watch?v=eJg7fAbmlf4> 92. Wolf 359 - Wikipedia, https://en.wikipedia.org/wiki/Wolf_359 93. Search For An Alien Communication From The Solar System To A Neighbor Star, <https://astrobiology.com/2021/11/search-for-an-alien-communication-from-the-solar-system-to-a-neighbor-star.html> 94. Stellar neighbors close-up - Astronomy Magazine, <https://www.astronomy.com/science/stellar-neighbors-close-up/> 95. The World's Largest Radio Telescope has Scanned Barnard's Star for Extraterrestrial Signals - Universe Today, <https://www.universetoday.com/articles/the-worlds-largest-radio-telescope-has-scanned-barnards-star-for-extraterrestrial-signals> 96. Sub-Earth Planet Found Orbiting Barnard's Star, Just 6 Light-Years Away - YouTube, <https://www.youtube.com/watch?v=uCMRl0PB1r0> 97. Lalande 21185 | Space Wiki - Fandom, https://space.fandom.com/wiki/Lalande_21185 98. Scientists look for alien technology from the TRAPPIST planets - Mashable, <https://mashable.com/article/trappist-planets-alien-life-radio-signals> 99. Exploring Alien Atmospheres with New Theory - Universe Today, <https://www.universetoday.com/articles/exploring-alien-atmospheres-with-new-theory> 100. Are Nearby TRAPPIST-1 Planets Sending Radio Signals To Each Other? - Astrobiology, <https://astrobiology.com/2024/10/are-nearby-trappist-1-planets-sending-radio-signals-to-each-other.html> 101. SETI Has Already Tried Listening to TRAPPIST-1 for Aliens - Universe Today, <https://www.universetoday.com/articles/seti-already-tried-listening-trappist-1-aliens> 102. The most exciting exoplanet discoveries of

2025 - Space, <https://www.space.com/astronomy/exoplanets/the-most-exciting-exoplanet-discoveries-of-2025> 103. How the Evidence for Alien Life on K2-18 b Evaporated - Universe Today, <https://www.universetoday.com/articles/how-the-evidence-for-alien-life-on-k2-18-b-evaporated> 104. Did Scientists Find Signs of Alien Life on Exoplanet K2-18b? - VICE, <https://www.vice.com/en/article/did-scientists-find-signs-of-alien-life-on-exoplanet-k2-18b/> 105. A possible sign of life on K2-18b? Here's what it means - The Planetary Society, <https://www.planetary.org/articles/possible-sign-of-life-k2-18-b> 106. Unmasking 'Trickster' Exoplanets with Bogus Signatures of Alien Life - Kavli Foundation, <https://www.kavlifoundation.org/news/unmasking-trickster-exoplanets-with-bogus-signatures-of-alien-life> 107. The Pleiades in reality... Pleiades star cluster, http://www.pleiade.org/pleiades_03.html

